In the Claims:

Please amend the claims as follows:

Claims 1-32 are cancelled.

33. (Previously Presented) A computer system programmed to process a large data set includes means for analyzing the data set, the means for analyzing the data set comprises means for solving mathematical expressions to produce an analyzed data set comprising a set of points within a problem domain, and means for applying a data compression technique to the analyzed data set such that the compressed analyzed data set has high fidelity in regions of interest and has lower fidelity in regions of lesser interest, the data compression technique produces high fidelity in geometric regions of interest at points in time of interest, the geometric region has at least one of a stress field and a deformation rate and the geometric region has at least one of a rapid change in the stress field, a high stress field or a high deformation rate, the computer system comprises a local workstation and a graphical display, and the computer has means to automatically present the most significant cross-sectional views on the graphical display, the means to automatically present the most significant cross-sectional views automatically selects regions which have at least one of a stress, a deformation rate or other variable above a threshold.

34. (Previously Presented) A method for processing a large data set representing a geometry, the method comprising:

analyzing the data set on a computer system, the analyzing of the data set comprising solving mathematical expressions to produce an analyzed data set comprising a set of points within a problem domain, and

applying a data compression technique to the analyzed data set such that the compressed analyzed data set has high fidelity in regions of interest and has lower fidelity in regions of lesser interest, the data compression technique

produces high fidelity in geometric regions of interest at points in time of interest, the geometric region has at least one of a stress field and a deformation rate and the geometric region has at least one of a rapid change in the stress field, a high stress field or a high deformation rate;

producing a graphical display at a local workstation; and

automatically presenting the most significant cross-sectional views of the geometry on the graphical display, the automatic presentation of the most significant cross-sectional views of the geometry comprising automatically selecting regions which have at least one of a stress, a deformation rate or other variable above a threshold.

35. (Previously Presented) A computer system programmed to process a large data set includes means for applying a data compression technique to the data set and means for analyzing the data set such that the analysis has high fidelity regions of interest and has lower fidelity in regions of lesser interest, the data compression technique allows the analysis to take place in high fidelity in geometric regions of interest at points in time of interest, the geometric region has at least one of a stress field and a deformation rate and the geometric region has at least one of a rapid change in the stress field, a high stress field or a high deformation rate, the computer system comprises a local workstation and a graphical display, and the computer has means to automatically present the most significant cross-sectional views on the graphical display, the means to automatically present the most significant cross-sectional views automatically selects regions which have at least one of a stress, a deformation rate or other variable above a threshold.

36. (Previously Presented) A method for processing a large data set representing a geometry, the method comprising:

applying a data compression technique to the data set;

analyzing the compressed data set on a computer system such that the analysis has high fidelity in regions of interest and has lower fidelity in regions of

lesser interest, the data compression technique allows the analysis to take place in high fidelity in geometric regions of interest at points in time of interest, the geometric region has at least one of a stress field and a deformation rate and the geometric region has at least one of a rapid change in the stress field, a high stress field or a high deformation rate;

producing a graphical display at a local workstation; and

automatically presenting the most significant cross-sectional views of the geometry on the graphical display, the automatic presentation of the most significant cross-sectional views of the geometry comprising automatically selecting regions which have at least one of a stress, a deformation rate or other variable above a threshold.

Claims 37-42 are cancelled.